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CLAIMS

1. A pressure sensor comprising an integrated circuit encapsulated within a package, said integrated circuit including a pressure sensing element, an opening being provided in the package allowing the pressure sensor to be  
5 exposed to the atmosphere wherein a filter extends across the opening thereby preventing the ingress of moisture or other harmful substances.
2. A pressure sensor as claimed in claim 1 wherein the integrated circuit incorporates a radio frequency transponder or other means for connecting or transmitting the output of the pressure sensing element to external circuitry.
- 10 3. A pressure sensor as claimed in claim 1 or claim 2 wherein the filter is fixed to the surface of the package such that it extends over and covers the opening.
4. A pressure sensor as claimed in any preceding claim wherein the filter is a membrane or film.
5. A pressure sensor as claimed in claim 4 wherein the filter is an organic film or  
15 membrane.
6. A pressure sensor as claimed in any preceding claim wherein the sensor is adapted to be fitted to or embedded in a vehicle tyre.
7. A pressure sensor as claimed in any preceding claim wherein the integrated circuit is mounted on a lead frame.
- 20 8. A pressure sensor as claimed in claim 7 wherein the integrated circuit and the lead frame are completely encapsulated within the package.

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9. A pressure sensor as claimed in any preceding claim wherein the package is a conventional semiconductor package incorporating an opening.
10. A pressure sensor as claimed in any preceding claim wherein the package is plastic.
- 5 11. A pressure sensor as claimed in any preceding claim wherein the opening is wholly filled with gel.
12. A pressure sensor as claimed in any one of claims 1 to 10 wherein the opening is partially filled with gel.
13. A pressure sensor as claimed in claim 11 or claim 12 wherein the gel is a relatively soft gel of relatively low density.
- 10 14. A method of manufacturing a pressure sensor comprising the steps of: providing an integrated circuit, the integrated circuit incorporating a pressure sensing element; applying a quantity of gel to the integrated circuit such as to cover at least the sensing element, thereby forming a gel-covered assembly; inserting the gel-covered assembly into a cavity of a moulding tool, said assembly being positioned such that a portion of said gel is in contact with the surface of the moulding tool; introducing a moulding compound into the cavity so as to encapsulate the assembly except for the portion of gel in contact with the moulding tool; removing the assembly from the cavity, whereby there is an opening defined in the package encapsulating the coated assembly through which the active element may be exposed to external air pressure; and affixing a suitable filter to the surface of the package such that the filter
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extends across the opening thereby preventing the ingress of moisture or other harmful substances.

15. A method of manufacturing a pressure sensor as claimed in claim 14 wherein the integrated circuit is mounted on a suitable lead frame before encapsulation.
- 5 16. A method of manufacturing a pressure sensor as claimed in claim 14 or claim 15 wherein the gel is removed from the sensing element after encapsulation but before the filter is affixed.
17. A method of manufacturing a pressure sensor as claimed in claim 16 wherein the gel is a low cost, fast-cure gel.
- 10 18. A method of manufacturing a pressure sensor as claimed in any one of claims 14 to 17 wherein the filter is affixed by means of a suitable adhesive.
19. A method of manufacturing a pressure sensor as claimed in any one of claims 14 to 18 wherein a projection is provided on the surface of the moulding tool adapted to make contact with the gel.
- 15 20. A method of manufacturing a pressure sensor as claimed in claim 19 wherein the projection is a removable pin.
21. A pressure sensor according to any one of claims 1 to 13 manufactured according to the method of any one of claims 14 to 20.